

USER SATISFACTION IN EUROPE

MID-RANGE SYSTEMS

1992

INPUT

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INPUT WORLDWIDE

San Francisco — 1280 Villa Street
Mountain View, CA 94041-1194

Tel. (415) 961-3300 Fax (415) 961-3966

New York — 400 Frank W. Burr Blvd.
Teaneck, NJ 07666
Tel. (201) 801-0050 Fax (201) 801-0441

Washington, D.C. — 1953 Gallows Rd., Ste. 560
Vienna, VA 22182
Tel. (703) 847-6870 Fax (703) 847-6872

London — 17 Hill Street
London W1X 7FB, England

Tel. +71 493-9335 Fax +71 629-0179

Paris — 24, avenue du Recteur Poincaré
75016 Paris, France
Tel. +1 46 47 65 65 Fax +1 46 47 69 50

Frankfurt — Sudetenstrasse 9
W-6306 Langgöns-Niederkleen, Germany
Tel. + 6447-7229 Fax +6447-7327

Tokyo — Saida Building, 4-6
Kanda Sakuma-cho, Chiyoda-ku
Tokyo 101, Japan
Tel. +3 3864-0531 Fax +3 3864-4114

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INPUT DIRECTORY

INPUT[®]

U.K.—17 Hill Street, London W1X 7FB, U.K.

+44 71 493 9335

France—24, avenue du Recteur Poincaré, 75016 Paris, France

+33 1 46 47 65 65

Germany—Sudetenstrasse 9, W-6306 Langgöns-Niederkleen, Germany

+49 6447 7229

Researched by
INPUT
17 Hill Street
London W1X 7FB
United Kingdom

Published by
INPUT
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Mountain View, CA 94041-1194

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Abstract

This study presents data relating to:

- User perceptions of vendor service performance
- User satisfaction with the servicing of mid-range computer systems

The data presented in this study has been collected by INPUT between April and November of 1992 in a survey of computer users in nine European countries.

The study contains an analysis of the key findings that emerge from the results of the 1992 survey of mid-range computer systems users.

Analyses related to the mid-range computer systems service performance of specific equipment vendors include:

- Bull
- Digital
- Hewlett-Packard
- IBM
- Stratus

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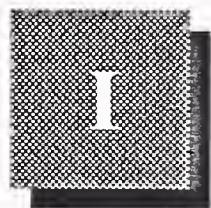
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Introduction

A

Objectives and Scope

This study presents the mid-range computer systems user's view of many aspects of computer system service and support.

The report will enable service vendors to assess the service performance levels achieved by their organisations in 1992. Data, which relate to user perception of major vendor service performance, is presented in simple tabulated form with a summary of the key findings that emerge. Service performance trends are analysed by comparing the report's data with previous INPUT reports relating to medium-sized computer systems.

The report contains tabulated data for Europe and four individual European country markets that will compare vendors' performances with overall mean values of European vendor performance. It will also assess the characteristics of individual country markets.

B

Methodology

The data presented in this report were compiled from interviews with 202 mid-range systems computer users throughout Europe. Users were chosen at random from a panel interviewed in previous years. New users were also sought in order to achieve quota and to track the emergence of new trends.

The basis of user interviews was a questionnaire relating to over 100 aspects of service and support compiled from discussions with major service vendors. A copy of the user questionnaire is included as Appendix A.

Details of the user sample analysed in this report are given in Exhibits I-1 and I-2.

EXHIBIT I-1

1992 User Interview Programme
User Sample by Country

Country	System Range			Total
	Large	Midrange	PC/Work-Station	
Belgium	7	6	-	13
France	66	36	-	102
Germany	55	55	11	121
Italy	28	12	-	40
Spain	13	28	-	41
Switzerland	7	5	-	12
Netherlands	10	10	-	20
Norway	5	-	-	5
Sweden	4	-	-	4
U.K.	38	47	51	136
Other European Countries	7	3	-	10
Total	240	202	62	504

EXHIBIT I-2

1992 User Interview Programme
User Sample by Vendor

Vendor	System Range			Total
	Large	Midrange	PC/Work-Station	
Amdahl	85	-	-	85
Bull	3	30	-	33
Digital	7	34	-	41
Hewlett-Packard	-	23	-	23
Hitachi	47	6	-	53
IBM	74	48	-	122
ICL	7	8	-	15
NCR	2	-	-	2
Siemens Nixdorf	-	13	-	13
Stratus	-	31	-	31
Unisys	9	-	-	9
Other Vendors	6	9	62	77
Total	240	202	62	504

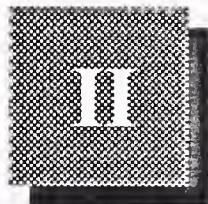
C

Report Structure

The remaining chapters of this study are structured as follows:

- Chapter II explains the basis of the statistics, the correct method of interpretation and ways of doing simple comparisons.
- Chapter III is an Executive Overview, which highlights the key findings that emerge from the survey.
- Chapter IV contains tabulated data relating to mid-range systems user perception of vendor service performance in Europe.
- Chapter V contains tabulated data relating to mid-range systems user perception of vendor service performance in four European country markets.
- Chapter VI contains tabulated data relating to mid-range systems user perception of some leading equipment vendors' service performances.
- Appendix A contains the questionnaire used for user interviews.

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Interpretation of the Data

A

Definitions

The following are a list of definitions:

- *Hardware* - any computer system or peripheral system.
- *Software* - operating systems software, not applications.
- *Large system* - a system that is considered by the vendor as part of that vendor's large system product range—for example, IBM 309X and 308X, Bull DPS 8, or Digital VAX 8XXX.
- *Mid-range system* - a system that is considered by the vendor as part of that vendor's mid-range system product range—for example, IBM 43XX and AS/400, Bull DPS 7, or Digital VAX 6XXX.
- *Documentation* - user documentation, provided by the product vendor, which relates to operation and use of the computer system hardware or systems software.

B

Statistics

Mean values are used throughout the tabulated data presented in this report. These mean values refer to user sample ratings for specific aspects of service performance or for a range of service performance factors. In either case, the mean value calculation is weighted according to the number of user responses recorded.

The standard error for each set of tabulated data has been estimated and is available in the INPUT's database. INPUT interviewed users of large, mid-range and PC systems for a total 504 interviews. Calculation of

standard error presented in this report is based on the estimated standard deviation that relates to this total sample.

For example, the standard deviation of user satisfaction with hardware service on all systems is estimated to be 2.0 for the total sample of 504 interviews. Therefore, the related standard error would be 2.0 divided by the square root of the sample size (2.0 divided by the square root of 504), giving a standard error of 0.09. For smaller sample size of 202 mid-range systems users, the standard error would increase to 0.14 as a consequence of reduced sample size.

In analysing the data presented in this report, INPUT has carefully scanned all the answers given during the interviews. When these answers were considered to be a gross departure from the norm, the data was been discounted. The objective of this exercise was to eliminate the worst effects of skew on distributions due to gross distortions.

Statistically, small sample sizes create difficulties due to the fact that they may not be totally representative of the population. INPUT has chosen a minimum sample size of 20 to represent a reasonably valid statistical result.

C

Ratings and Satisfaction Index

In this report, ratings for importance and satisfaction are on a scale of 0 to 10 where:

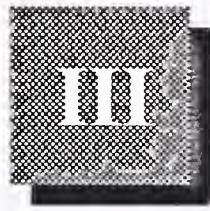
- Importance
 - 0 = of no importance or not applicable
 - 1 = of very low importance
 - 5 = of average importance
 - 10 = extremely important
- Satisfaction
 - 0 = none applicable or not experienced
 - 1 = very low satisfaction
 - 5 = average satisfaction
 - 10 = total satisfaction

The satisfaction index throughout this report is based on the difference between the importance and satisfaction ratings for specific aspects of service. The questions concerning importance and satisfaction were asked at the same time and the answers reflect the respondent's value judgment at that time.

- Ratings of 10 and 10, or 6 and 6, etc., give a difference value of zero, indicating that the importance needs are fully satisfied.

- Ratings of importance 8 and satisfaction 9 would indicate overfulfillment of the importance needs, and would give a satisfaction index of -1. In INPUT's analysis, overfulfillment of -1 is represented as (1).
- Ratings of importance of 6 and satisfaction 5 indicate underfulfillment of the importance needs and would give a satisfaction index of 1, the degree of underfulfillment being related to the magnitude of this difference.
- Satisfaction index can thus be interpreted as follows:
 - (2) = clearly overfilled or oversatisfied
 - (1) = overfilled or oversatisfied
 - 0 = completely satisfied
 - 1 = concerns and worries
 - 2 = real dissatisfaction
 - 3 = pain level

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Executive Overview

A

Mid-Range Systems Users Indicate Varying Degrees of Marginal Undersatisfaction with Vendor Service Performance

In overall terms, mid-range computer systems users in Europe indicate varying degrees of marginal undersatisfaction with vendor customer services.

However, user satisfaction varies considerably between the countries analysed in this survey:

- In Germany, users express real dissatisfaction.
- On the other hand, in the U.K., users indicate oversatisfaction.

B

User Satisfaction in Europe

User satisfaction is assessed by INPUT using a satisfaction index. The satisfaction index is calculated as the difference between importance ratings and satisfaction ratings, with both ratings on a scale of 0 to 10. Interpretation of satisfaction index is as follows:

- (1) or higher = Oversatisfied
- 0 = Fully satisfied
- 1 = Concerns and worries
- 2 = Real dissatisfaction
- 3 = Pain level

At the overall Europe level, user satisfaction with vendor service in 1992 is summarised in the following paragraphs.

1. Hardware Service

Results of the mid-range systems user satisfaction survey indicate that users are marginally undersatisfied with vendor hardware service.

This level of concern is supported by a satisfaction index of 0.3. Within the framework of hardware service, five specific aspects of service were surveyed and only documentation indicated oversatisfaction at the overall European level. The five aspects of hardware service included in the 1992 survey were:

- Spares availability
- Engineer skills
- Problem escalation
- Documentation
- Remote diagnostics

A summary of user satisfaction with hardware service in Europe is provided by Exhibit III-1.

EXHIBIT III-1

User Satisfaction with Hardware Service in Europe, 1992 Mid-Range Systems

Service Aspect	Satisfaction Index
Spares Availability	1.1
Engineer Skills	1.4
Problem Escalation	(0.8)
Documentation	(1.0)
Remote Diagnostics	0.7
Overall Level of User Satisfaction	0.3

Sample Size: 202

2. Systems Software Support

Exhibit III-2 indicates that users express marginal but significant undersatisfaction with the software services. This is indicated by a satisfaction index of 0.7.

In 1992, five specific aspects of systems software support were surveyed. The only aspect indicating a marginal level of undersatisfaction is documentation. The five aspects of systems software support surveyed were:

- Engineer skills
- Documentation
- Software installation
- Provision of updates
- Remote diagnostics.

Exhibit III-2 provides a summary of user satisfaction with the five aspects of systems software support.

EXHIBIT III-2

User Satisfaction with Systems Software Support in Europe, 1992 Mid-Range Systems

Service Aspect	Satisfaction Index
Engineer Skills	1.4
Documentation	0.4
Software Installation	0.7
Provision of Updates	0.4
Remote Diagnostics	0.8
Overall Level of User Satisfaction	0.7

Sample Size: 202

C

Country Market User Satisfaction

1. Hardware Service

Exhibit III-3 provides a summary of user satisfaction with hardware service in four European country markets.

This exhibit indicates a marked contrast between the four countries analysed in this survey:

- In France and in Spain, marginal undersatisfaction is expressed by users; the satisfaction indices are 0.6 and 0.8 respectively.
- In Germany, users show real dissatisfaction; the satisfaction index is 2.6.
- In the U.K., users indicate oversatisfaction; the satisfaction index is (1.7).

Within the framework of the five specific aspects of hardware service surveyed, responses in individual country markets can be summarised as follows:

- France:
 - User satisfaction with documentation and problem escalation indicates that user needs are fully satisfied. This is supported by satisfaction indices of (0.1) and (0.2) respectively.
 - Spares availability shows significant undersatisfaction, which is expressed by an index of 0.8.
 - For engineer skills and remote diagnostics the satisfaction indices are 1.4 and 1.2 respectively, showing some concern.
- Germany:
 - With the exception of problem escalation, for which marginal undersatisfaction is expressed, all the aspects indicate dissatisfaction. The satisfaction indices range from 2.2 to 3.4. This last and worst index corresponds to spares availability.
- Spain:
 - Apart from remote diagnostics, which has a satisfaction index of 1.4, all other aspects indicate varying degrees of concern: 0.6 to 0.9.

- United Kingdom:
 - The only aspect to show user marginal undersatisfaction is engineer skills—the satisfaction index is 0.6. All other aspects indicate full or oversatisfaction.

EXHIBIT III-3

Country Market User Satisfaction with Hardware Service, 1992 Mid-Range Systems

Country Market	Satisfaction Index
France	0.6
Germany	2.6
Spain	0.8
United Kingdom	(1.7)

Sample Sizes	France	- 36
	Germany	- 55
	Spain	- 28
	United Kingdom	- 47

2. Systems Software Support

Exhibit III-4 provides a summary of user satisfaction with systems software support in four European country markets.

Individual country markets are summarised as follows:

- France:
 - User satisfaction with documentation indicates real dissatisfaction expressed by a satisfaction index of 2.3.
 - User satisfaction with engineer skills and software installation show significant concern; the satisfaction indices are 1.6 and 1.3 respectively.
 - Acceptable and significant undersatisfaction are expressed for provision of updates; the satisfaction index is 0.8.

- Remote diagnostics is the only aspect to show almost complete satisfaction with an index of 0.1.
- Germany:
 - User satisfaction with engineer skills shows a significant degree of dissatisfaction; the satisfaction index being 2.6.
 - The other aspects of user satisfaction with systems software support indicate significant user concern, as evidenced by satisfaction indices ranging between 1.7 and 1.9.
- Spain:
 - Engineer skills, software installation and remote diagnostics indicate significant concern; the satisfaction indices are 1.5, 1.3 and 1.7 respectively.
 - Documentation and provision of updates cause marginal, but significant concern; the satisfaction indices are 0.8 and 0.7 respectively.
- United Kingdom:
 - Within this market all aspects of systems software support are either satisfied or oversatisfied, supported by satisfaction indices ranging between (0.1) and (3.3). The only aspect to be marginally undersatisfied is engineer skills; with a satisfaction index of 0.2.

EXHIBIT III-4

**Country Market User Satisfaction with
Systems Software Support, 1992
Mid-Range Systems**

Country Market	Satisfaction Index
France	1.2
Germany	2.0
Spain	1.2
United Kingdom	(1.1)

Sample Sizes	France	- 36
	Germany	- 55
	Spain	- 28
	United Kingdom	- 47

D**The German Market**

In order to gain a better understanding of the German market, which was comparing poorly with the other markets, the views of 12 senior customer services representatives were sought at a closed meeting during September 1991. These representatives represented a good cross section of equipment vendors including:

- IBM
- Siemens Nixdorf
- ICL
- Debis
- Hewlett-Packard
- NCR
- PrimeService

The conclusion reached at this meeting can be summarised as follows:

- German users are more demanding of service than users in other countries.
- Service is considered expensive in Germany and users feel that value relative to the price paid is not equivalent. This comment was supported by poor user satisfaction with service prices in the German market.

Therefore, the key issue in Germany is that service is not providing value or satisfaction.

E Vendor Performance Achievements

Exhibits III-5 and III-6 provide a ranking of the user satisfaction achievements of mid-range systems vendors analysed in this survey: Bull, Digital, Hewlett-Packard, IBM and Stratus.

These exhibits compare the achievements between these vendors relative to the overall sample of 202 mid-range systems users surveyed throughout Europe in 1992.

User satisfaction for Stratus shows complete satisfaction and oversatisfaction for hardware service and systems software support.

For Hewlett-Packard and Digital, user satisfaction indicates marginal levels of undersatisfaction for hardware service and systems software support.

IBM user satisfaction is 1.5 for hardware service and 1.1 for systems software support, showing some concern.

A look at individual aspects shows that users are relatively satisfied with systems software documentation of the vendors.

EXHIBIT III-5

Vendor—Hardware Service, 1992
Mid-Range Systems

Vendor	Overall Satisfaction Index
Bull	0.1
Digital	0.6
Hewlett-Packard	0.1
IBM	1.5
Stratus	(1.0)
European Average (Mid-Range Systems)	0.3

Sample Sizes: Bull - 30
 Digital - 34
 Hewlett-Packard - 23
 IBM - 48
 Stratus - 31

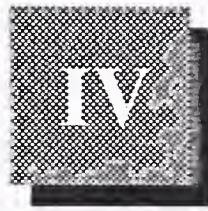
EXHIBIT III-6

Vendor—Systems Software Support, 1992
Mid-Range Systems

Vendor	Overall Satisfaction Index
Bull	1.4
Digital	0.4
Hewlett-Packard	0.5
IBM	1.1
Stratus	(0.1)
European Average (Mid-Range Systems)	0.7

Sample Sizes: Bull - 30
 Digital - 34
 Hewlett-Packard - 23
 IBM - 48
 Stratus - 31

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User Satisfaction in Europe— Mid-Range Systems

This section of the study contains analysis of INPUT's 1992 mid-range systems user survey sample of 202 users in Europe.

Analysis is presented in the form of tabulated data by Exhibits IV-1 to IV-7:

- Exhibit IV-1 provides a breakdown of the user sample by industry sector.
- Exhibit IV-2 provides details of user satisfaction with vendor service on five specific aspects of hardware service:
 - Spares availability
 - Engineer skills
 - Problem escalation
 - Documentation
 - Remote diagnostics
- Exhibit IV-3 provides details of user satisfaction with vendor service on five specific aspects of systems software support:
 - Engineer skills
 - Documentation
 - Software installation
 - Provision of updates
 - Remote diagnostics
- Exhibit IV-4 presents data relating to user perception of system performance:
 - Incidence of major failures
 - Cause of failure
 - Satisfaction with systems availability

- Exhibit IV-5 presents data relating to user perception of vendor response time performance and vendor performance in remedial activities to resolve problems and failures.
- Exhibit IV-6 presents data identifying which type of vendor is providing service to the user sample.
- Exhibit IV-7 provides analysis of data relating to questions 9 (hardware service) and 18 (systems software support) on the user questionnaire. The user satisfaction data presented in this exhibit is a measure of the vendors service quality image. A copy of the user questionnaire is included in Appendix A.

EXHIBIT IV-1

Europe 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	85
Distribution	19
Transportation	6
Utilities	1
Banking and Finance	28
Insurance	5
Government	14
Services	26
Other/Don't Know	18
Total Sample	202

EXHIBIT IV-2

Europe 1992
User Satisfaction with Hardware Service
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	8.7	7.6	1.1
Engineer Skills	9.1	7.7	1.4
Problem Escalation	7.4	8.2	(0.8)
Documentation	6.3	7.3	(1.0)
Remote Diagnostics	8.2	7.5	0.7
Average	8.0	7.7	0.3

Sample Size: 202

EXHIBIT IV-3

Europe 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.5	8.1	1.4
Documentation	7.9	7.5	0.4
Software Installation	8.6	7.9	0.7
Provision of Updates	8.3	7.9	0.4
Remote Diagnostics	8.7	7.9	0.8
Average	8.6	7.9	0.7

Sample Size: 202

EXHIBIT IV-4

Europe 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures	Cause of Failure (Percent) Per Annum			
	Hardware	Systems Software	Applications Software	Other
1.6	65	4	2	29

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	9.1	0.5

Sample Size: 202

Number of Mentions of Failures: 105

EXHIBIT IV-5

Europe 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	3.6	3.3	(0.3)
Systems Software Support	5.6	6.2	0.6

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.8	4.9	0.1
Systems Software Support	7.3	7.8	0.6

Sample Size: 202

EXHIBIT IV-6

Europe 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
92	1	8	4	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
81	7	5	0.5	24	1

Sample Size: 202

Note: Multiple Responses Allowed

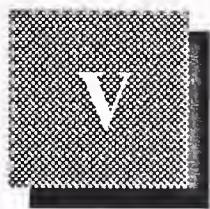
EXHIBIT IV-7

Europe 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	8.7	0.9

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.5	8.3	1.2

Sample Size: 202



Country Market Service Performance Data— Mid-Range Systems

This section of the study contains analysis of INPUT's 1992 mid-range systems user survey sample segmented by European country market.

Analyses presented are in tabulated data and refer to the user sample in the following country markets:

- Data relating to the French market are provided by Exhibits V-1 to V-7.
- Data relating to the German market are provided by Exhibits V-8 to V-14.
- Data relating to the Spanish market are provided by Exhibits V-15 to V-21.
- Data relating to the market in the United Kingdom are provided by Exhibits V-22 to V-28.

The data analysed in this chapter are restricted to those country markets in which the user sample size statistically valid, i.e., it has a user sample of at least 20 respondents.

EXHIBIT V-1

France 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	6
Distribution	8
Transportation	3
Utilities	0
Banking and Finance	1
Insurance	3
Government	4
Services	11
Other/Don't Know	0
Total Sample	36

EXHIBIT V-2

France 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	9.2	8.4	0.8
Engineer Skills	9.9	8.5	1.4
Problem Escalation	8.1	8.3	(0.2)
Documentation	6.5	6.6	(0.1)
Remote Diagnostics	8.6	7.4	1.2
Average	8.5	7.9	0.6

Sample Size: 36

EXHIBIT V-3

France 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.7	8.1	1.6
Documentation	9.3	7.0	2.3
Software Installation	9.2	7.9	1.3
Provision of Updates	8.6	7.8	0.8
Remote Diagnostics	8.8	8.7	0.1
Average	9.1	7.9	1.2

Sample Size: 36

EXHIBIT V-4

**France 1992 System Performance Data
Mid-Range Systems**

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
1.3	45	0	10	45

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.9	9.3	0.6

Sample Size: 36

Number of Mentions of Failures: 10

EXHIBIT V-5

France 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	3.8	4.48	0.6
Systems Software Support	5.6	5.3	(0.3)

Repair/Fix time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.8	5.8	1.0
Systems Software Support	6.1	7.3	1.2

Sample Size: 36

EXHIBIT V-6

France 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
89	0	8	0	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
78	3	11	0	27	3

Sample Size: 36

Note: Multiple Responses Allowed

EXHIBIT V-7

France 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	8.5	1.1

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.0	7.9	1.1

Sample Size: 36

EXHIBIT V-8

Germany 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	38
Distribution	1
Transportation	1
Utilities	0
Banking and Finance	2
Insurance	0
Government	1
Services	8
Other/Don't Know	4
Total Sample	55

EXHIBIT V-9

Germany 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	8.5	5.1	3.4
Engineer Skills	8.4	5.1	3.3
Problem Escalation	6.2	5.4	0.8
Documentation	7.0	4.8	2.2
Remote Diagnostics	8.3	5.1	3.2
Average	7.7	5.1	2.6

Sample Size: 55

EXHIBIT V-10

Germany 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	10	7.4	2.6
Documentation	9.0	7.1	1.9
Software Installation	7.4	5.6	1.8
Provision of Updates	8.8	7.1	1.7
Remote Diagnostics	9.3	7.6	1.7
Average	9.3	7.2	2.1

Sample Size: 55

EXHIBIT V-11

Germany 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
2.5	54	4	0	42

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.9	8.8	1.1

Sample Size: 55

Number of Mentions of Failures: 36

EXHIBIT V-12

Germany 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	2.8	3.3	0.5
Systems Software Support	3.9	6.6	3.3

Repair/Fix time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.4	5.3	.9
Systems Software Support	7.1	11.5	4.4

Sample Size: 55

EXHIBIT V-13

Germany 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
89	0	13	2	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
82	9	4	0	18	0

Sample Size: 55

Note: Multiple Responses Allowed

EXHIBIT V-14

Germany 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.9	8.2	1.7

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.9	7.4	2.5

Sample Size: 55

EXHIBIT V-15

Spain 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	9
Distribution	5
Transportation	1
Utilities	0
Banking and Finance	7
Insurance	1
Government	1
Services	2
Other/Don't Know	2
Total Sample	28

EXHIBIT V-16

Spain 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	9.1	8.2	0.9
Engineer Skills	8.9	8.3	0.6
Problem Escalation	8.7	8.0	0.7
Documentation	8.5	7.9	0.6
Remote Diagnostics	8.7	7.3	1.4
Average	8.8	8.0	0.8

Sample Size: 28

EXHIBIT V-17

Spain 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.2	7.7	1.5
Documentation	8.7	7.9	0.8
Software Installation	8.4	7.1	1.3
Provision of Updates	7.8	7.1	0.7
Remote Diagnostics	8.4	6.7	1.7
Average	8.5	7.3	1.2

Sample Size: 28

EXHIBIT V-18

Spain 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
2.3	57	5	6	32

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	9.0	0.6

Sample Size: 28

Number of Mentions of Failures: 19

EXHIBIT V-19

Spain 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	2.5	3.0	0.5
Systems Software Support	6.6	7.9	1.3

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	3.3	3.5	1.2
Systems Software Support	4.3	5.6	1.3

Sample Size: 28

EXHIBIT V-20

Spain 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
89	0	11	0	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
89	14	3	0	18	0

Sample Size: 28

Note: Multiple Responses Allowed

EXHIBIT V-21

Spain 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.2	8.1	1.1

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.3	8.5	0.8

Sample Size: 28

EXHIBIT V-22

United Kingdom 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	21
Distribution	2
Transportation	1
Utilities	0
Banking and Finance	12
Insurance	0
Government	6
Services	0
Other/Don't Know	5
Total Sample	47

EXHIBIT V-23

United Kingdom 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	8.2	8.7	(0.5)
Engineer Skills	9.7	9.1	0.6
Problem Escalation	7.3	9.3	(2.0)
Documentation	4.3	8.4	(4.1)
Remote Diagnostics	7.5	9.8	(2.3)
Average	7.4	9.1	(1.7)

Sample Size: 47

EXHIBIT V-24

United Kingdom 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.4	9.2	0.2
Documentation	4.9	8.2	(3.3)
Software Installation	7.6	8.8	(1.2)
Provision of Updates	7.9	9.1	(1.2)
Remote Diagnostics	9.2	9.3	(0.1)
Average	7.8	8.9	(1.1)

Sample Size: 47

EXHIBIT V-25

United Kingdom 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause Of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
0.6	98	0	0	2

Satisfaction With Systems Availability

Importance Rating	Satisfaction Rating	Satisfaction Index
9.3	9.3	0.0

Sample Size: 47

EXHIBIT 26

United Kingdom 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	5.5	2.8	(2.7)
Systems Software Support	6.3	2.5	(3.8)

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	6.9	4.2	(2.7)
Systems Software Support	9.2	4.9	(4.3)

Sample Size: 47

EXHIBIT V-27

**United Kingdom 1992
Service Provider Data
Mid-Range Systems**

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
96	0	2	2	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
94	0	0	0	15	0

Sample Size: 47

Note: Multiple Responses Allowed

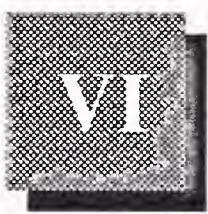
EXHIBIT V-28

**United Kingdom 1992
Users' Views on Current Service Performance
Mid-Range Systems**

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.5	9.5	0.0

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.7	9.4	0.3

Sample Size: 47



Vendor Service Performance Data— Mid-Range Systems

Data presented in this section provide a measure of the service performance for key mid-range systems vendors. The data analysed forms part of INPUT's 1992 computer user survey and represents the results of interviews with the 202 mid-range computer systems users.

Analyses are presented in tabulated data and refer to the user base of the following vendors:

- Data relating to the responses of the Bull user base are presented by Exhibits VI-1 to VI-7.
- Data relating to the responses of the Digital user base are presented by Exhibits VI-8 to VI-14.
- Data relating to the responses of the Hewlett-Packard user base are presented by Exhibits VI-15 to VI-21.
- Data relating to the responses of the IBM user base are presented by Exhibits VI-22 to VI-28.
- Data relating to the responses of the Stratus user base are presented by Exhibits VI-29 to VI-35.

Data analysed in this chapter of the study are restricted to those vendor user samples that are considered by INPUT to provide a statistically valid sample size, i.e., a user sample of at least 20 respondents.

Samples of analyses for user responses relate primarily to the service provided by vendors on the following models of computer systems.

- Bull; DPS 7 and DPS 7000 series
- Digital; VAX 6XXX, VAX 11-730, VAX 11-740, VAX 11-750

- Hewlett-Packard; HP 3000 series, and HP 925, 935, 960 models from the HP 9000 series
- IBM; AS/400, 43XX, S38
- Stratus; XA 2000 series, XA 250, XA 400

EXHIBIT VI-1

Bull 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	9
Distribution	5
Transportation	2
Utilities	0
Banking and Finance	0
Insurance	2
Government	9
Services	2
Other/Don't Know	1
Total Sample	30

EXHIBIT VI-2

Bull 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	8.9	8.1	0.8
Engineer Skills	9.4	8.3	1.1
Problem Escalation	6.3	8.6	(2.3)
Documentation	5.5	6.3	(0.8)
Remote Diagnostics	8.3	6.8	1.5
Average	7.7	7.6	0.1

Sample Size: 30

EXHIBIT VI-3

Bull 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.5	7.8	1.7
Documentation	8.1	7.3	1.2
Software Installation	8.8	7.4	1.4
Provision of Updates	8.7	7.2	1.5
Remote Diagnostics	9.0	7.5	1.5
Average	8.8	7.4	1.4

Sample Size: 30

EXHIBIT VI-4

Bull 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
1.3	61	3	0	36

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.4	8.6	0.8

Sample Size: 30

EXHIBIT VI-5

Bull 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	3.5	3.7	0.2
Systems Software Support	7.9	7.4	(0.5)

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.8	5.8	1.0
Systems Software Support	8.2	9.8	1.6

Sample Size: 30

EXHIBIT VI-6

Bull 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
97	3	0	0	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
90	0	0	0	3	3

Sample Size: 30

Multiple Responses Allowed

EXHIBIT VI-7

Bull 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.5	8.4	1.1

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.7	7.9	1.8

Sample Size: 30

EXHIBIT VI-8

Digital 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	13
Distribution	4
Transportation	0
Utilities	1
Banking and Finance	6
Insurance	2
Government	1
Services	4
Other/Don't Know	3
Total Sample	34

EXHIBIT VI-9

Digital 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	8.6	7.3	1.3
Engineer Skills	9.1	7.7	1.4
Problem Escalation	8.8	7.7	1.1
Documentation	6.5	7.2	(0.7)
Remote Diagnostics	7.9	7.9	0.0
Average	8.2	7.6	0.6

Sample Size: 34

EXHIBIT VI-10

Digital 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.7	8.4	1.3
Documentation	7.8	7.7	0.1
Software Installation	8.6	7.8	0.8
Provision of Updates	8.1	8.3	(0.2)
Remote Diagnostics	7.9	7.6	0.3
Average	8.4	8.0	0.4

Sample Size: 34

EXHIBIT VI-11

Digital 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
2.0	66	5	5	24

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.7	9.0	0.7

Sample Size: 34

Number of Mentions of Failures: 20

EXHIBIT VI-12

Digital 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.9	4.8	(0.1)
Systems Software Support	6.0	8.5	2.5

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	5.2	3.9	(1.3)
Systems Software Support	8.2	4.7	(3.5)

Sample Size: 34

EXHIBIT VI-13

**Digital 1992
Service Provider Data
Mid-Range Systems**

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
85	0	15	0	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
76	15	3	0	15	0

Sample Size: 34

Note: Multiple Responses Allowed

EXHIBIT VI-14

**Digital 1992
Users' Views on Current Service Performance
Mid-Range Systems**

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	8.4	1.2

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	8.4	1.2

Sample Size: 34

EXHIBIT VI-15

**Hewlett-Packard 1992
Sample Distribution by Industry Sector
Mid-Range Systems**

Industry Sector	Number of Respondents
Manufacturing	17
Distribution	1
Transportation	0
Utilities	0
Banking and Finance	1
Insurance	0
Government	0
Services	2
Other/Don't Know	2
Total Sample	23

EXHIBIT VI-16

**Hewlett-Packard 1992
User Satisfaction with Hardware Services
Mid-Range Systems**

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	9.1	7.9	1.2
Engineer Skills	8.9	7.6	1.3
Problem Escalation	7.2	8.4	(1.2)
Documentation	5.5	7.7	(2.2)
Remote Diagnostics	9.1	7.6	1.5
Average	8.0	7.9	0.1

Sample Size: 23

EXHIBIT VI-17

**Hewlett-Packard 1992
User Satisfaction with Systems Software Support
Mid-Range Systems**

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.4	8.5	0.9
Documentation	7.5	7.6	(0.1)
Software Installation	8.6	8.4	0.2
Provision of Updates	8.7	7.8	0.9
Remote Diagnostics	8.9	8.1	0.8
Average	8.6	8.1	0.5

Sample Size: 23

EXHIBIT VI-18

**Hewlett-Packard 1992
System Performance Data
Mid-Range Systems**

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
1.3	51	8	8	33

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.6	9.0	0.6

Sample Size: 23

Number of Mentions of Failures: 13

EXHIBIT VI-19

Hewlett-Packard 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.7	4.2	(0.5)
Systems Software Support	5.8	6.1	0.3

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	5.4	3.2	(2.2)
Systems Software Support	6.1	6.8	0.7

Sample Size: 23

EXHIBIT VI-20

**Hewlett-Packard 1992
Service Provider Data
Mid-Range Systems**

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
87	4	9	0	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
61	22	0	4	22	4

Sample Size: 23

Note: Multiple Responses Allowed

EXHIBIT VI-21

**Hewlett-Packard 1992
Users' Views on Current Service Performance
Mid-Range Systems**

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.5	9.2	0.3

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.7	8.6	1.1

Sample Size: 23

EXHIBIT VI-22

IBM 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	24
Distribution	4
Transportation	1
Utilities	0
Banking and Finance	4
Insurance	1
Government	1
Services	7
Other/Don't Know	6
Total Sample	48

EXHIBIT VI-23

IBM 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	8.8	6.8	2.0
Engineer Skills	9.0	6.8	2.2
Problem Escalation	9.1	7.6	1.5
Documentation	7.7	7.8	(0.1)
Remote Diagnostics	8.2	6.6	1.6
Average	8.6	7.1	1.5

Sample Size: 48

EXHIBIT VI-24

IBM 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.7	7.7	2.0
Documentation	8.5	7.8	0.7
Software Installation	8.7	7.7	1.0
Provision of Updates	7.7	7.4	0.3
Remote Diagnostics	8.6	6.9	1.7
Average	8.6	7.5	1.1

Sample Size: 48

EXHIBIT VI-25

IBM 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
1.4	67	2	1	30

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.8	9.3	0.5

Sample Size: 48

Number of Mentions of Failures: 28

EXHIBIT VI-26

IBM 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	3.0	2.7	(0.3)
Systems Software Support	5.4	7.4	2.0

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.7	5.0	0.3
Systems Software Support	6.4	9.9	3.5

Sample Size: 48

EXHIBIT VI-27

IBM 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
92	2	12	2	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
94	6	6	0	31	0

Sample Size: 48

Note: Multiple Responses Allowed

EXHIBIT VI-28

IBM 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.7	8.6	1.1

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.2	8.2	1.0

Sample Size: 48

EXHIBIT VI-29

Stratus 1992
Sample Distribution by Industry Sector
Mid-Range Systems

Industry Sector	Number of Respondents
Manufacturing	6
Distribution	0
Transportation	1
Utilities	0
Banking and Finance	13
Insurance	0
Government	1
Services	6
Other/Don't Know	4
Total Sample	31

EXHIBIT VI-30

Stratus 1992
User Satisfaction with Hardware Services
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Spares Availability	9.2	9.1	0.1
Engineer Skills	9.4	8.6	0.8
Problem Escalation	6.0	8.9	(2.9)
Documentation	5.5	7.6	(2.1)
Remote Diagnostics	8.3	9.3	(1.0)
Average	7.7	8.7	(1.0)

Sample Size: 31

EXHIBIT VI-31

Stratus 1992
User Satisfaction with Systems Software Support
Mid-Range Systems

Service Aspect	Importance Rating	Satisfaction Rating	Satisfaction Index
Engineer Skills	9.1	8.4	0.7
Documentation	7.7	7.5	0.2
Software Installation	8.0	8.2	(0.2)
Provision of Updates	8.2	8.3	(0.1)
Remote Diagnostics	8.8	8.6	0.2
Average	8.3	8.2	0.1

Sample Size: 31

EXHIBIT VI-32

Stratus 1992
System Performance Data
Mid-Range Systems

System Failure Rates				
Failures Per Annum	Cause of Failure (Percent)			
	Hardware	Systems Software	Applications	Other
0.6	78	4	0	18

Satisfaction with Systems Availability		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.2	9.2	0.0

Sample Size: 31

Number of Mentions of Failures: 11

EXHIBIT VI-33

Stratus 1992
Service Response and Repair/Fix Time Performance
Mid-Range Systems

Response Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	3.0	1.9	(1.1)
Systems Software Support	4.4	2.5	(1.9)

Repair/Fix Time (Hours)			
Service Aspect	Acceptable Time	Experienced Time	Difference
Hardware Service	4.9	5.5	0.6
Systems Software Support	7.1	5.1	(2.0)

Sample Size: 31

EXHIBIT VI-34

Stratus 1992
Service Provider Data
Mid-Range Systems

Percent Hardware Service Provided By				
Equipment Manufacturer	Dealer/ Distributor	Independent Maintainer	In-House Resources	Other
87	0	2	19	0

Percent Systems Software Support Provided By					
Equipment Manufacturer	Software House	Software Product Vendor	VAR	In-House Resources	Other
61	0	4	0	48	0

Sample Size: 31

Note: Multiple Responses Allowed

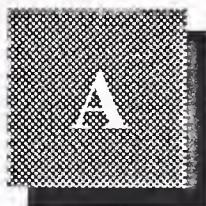
EXHIBIT VI-35

Stratus 1992
Users' Views on Current Service Performance
Mid-Range Systems

Hardware Service		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.3	9.2	0.1

Systems Software Support		
Importance Rating	Satisfaction Rating	Satisfaction Index
9.2	8.7	0.5

Sample Size: 31



INPUT 1992 Computer User Survey Questionnaire

A **General**

1. What is the make and model number of the main computer on your site and how many do you have?

- Makers Name _____
- Model _____ *(Critical Information)*
- Units _____

2. Are you the person who is knowledgeable on the servicing of this system?

- Yes _____ No _____

(If not then obtain the name of the correct person and start again)

Name of person responsible _____

3. Do you have other systems? What are the makes and model numbers of these systems and how many do you have?

	Secondary	Others
• Makers Names	_____	_____
• Model	_____	_____
• Units	_____	_____

(Critical Information)

Most of the following questions that I am going to ask you are related to your main _____ system. (Write in system type). There will be some questions that refer to secondary or other systems or to secondary vendors of support.

(To confirm, read out the chosen make and model number).

4. So that we can ensure that we get a proper cross-section of industry and commerce, can you tell me what is the main business sector of your company?

(Read out the list to allow for best choice. Then circle appropriate answer).

Business Sector

- Manufacturing 1
- Distribution 2
- Transportation 3
- Utilities 4
- Banking and Finance 5
- Insurance 6
- Government (including Education) 7
- Services 8
- Other 88

- Don't Know 99

B

Service Vendor Selection

I would like to ask you some questions relating to the vendors that service your computer systems.

5. Could you please rate the *Importance* of the following criteria in selecting your service vendors, on a scale of 1 to 10 (1 = low, 10 = high).

Criteria	Rating
a) Quality of service	_____
b) Guaranteed system availability level	_____
c) Guaranteed availability of spare parts	_____
d) Technical expertise	_____
e) Fast response time	_____
f) Availability of software support	_____
g) Ability to provide other services	_____
h) Contract flexibility	_____
i) Ability to service other products (of other types or from other vendors)	_____
j) Vendor reputation	_____
k) Price	_____

Interviewer: Please Rotate Question Order.

6a) Would you please tell me who services your computer systems hardware?

(Please circle appropriate vendor type; multiple answers are allowed in each column).

	Main	2ndary	Other
• Manufacturer	1	1	1
• Dealer/Distributor/VAR	1	1	1
• Independent maintenance organisation (IMO)	1	1	1
• Own company	1	1	1
• Other	1	1	1
• Don't Know	99	99	99

(If the respondent answered *yes* to IMO, go to question 6b. If the respondent answered *yes* to Dealer/Distributor, go to question 6c. If neither, go to question 7.

b) I notice that your system, or part of it, is serviced by an independent maintenance organisation. Could you tell me the reason why you use an independent maintenance organisation (IMO)?

(Please circle appropriate answer; multiple answers allowed).

• Lower cost	1
• Local service	1
• Single-source service	1
• IMO service is higher quality	1
• More flexible contract	1
• Other	1
• Don't Know	99

Interviewer: Please Rotate Question Order.

(If the respondent answered *yes* to Dealer/Distributor, carry on to question 6c. If *not*, go to question 8.)

c) I notice that your system, or part of it, is serviced by a Dealer/Distribution/VAR. Could you tell me the reason why you use maintenance from this source?

(Please circle appropriate answer; multiple answers allowed).

- Lower cost 1
- Local service 1
- Single-source service 1
- VAR service is higher quality 1
- More flexible contract 1
- Other 1

- Don't Know 99

Go to question 8a.

7. I notice that you *do not* use an independent maintenance company (IMO); is there a reason for this?

(Please circle appropriate answer; multiple answers allowed).

- Satisfied with manufacturer 1
- Manufacturer has an advantage 1
- IMOs cannot support software 1
- Tied to manufacturer with contract 1
- Fear of system supplier response 1
- Considered and rejected IMO 1
- IMO financial weakness 1
- Unaware of IMOs 1

- Other 1

- Don't Know 99

Interviewer: Please Rotate Question Order.

8a) Would you prefer all hardware maintenance and systems software support to be provided by one service vendor at each site, or one vendor overall? If yes, what would your interest level for single source service be on a scale of 1 to 10
(1 = Low, 10 = High)

(Circle answer)

- Yes, one vendor per site 1
- Yes, prefer one for all sites 2
- No, prefer multiple vendors 3
- Don't know 99
- Level of interest _____

(If the respondent answered either yes, ask:)

b) Who would you prefer that vendor to be?

(Please circle appropriate answer; multiple answers allowed).

- The manufacturer of your main hardware 1
- Dealer/distributor/VAR 1
- IMO company 1
- One of your other hardware manufacturers 1
- Other 1

- Don't Know 99

Note: VAR is a value-added reseller.

IMO is an independent maintenance organisation.

C

Hardware Maintenance

I would now like to ask you some questions about the *Hardware Maintenance* of your computer systems.

(Reaffirm that questions apply to the main system type _____)

Some of the questions are scaled with ratings from 0 or 1 to 10. Zero (0) represents Not Applicable (NA), 1 is low importance or low satisfaction, 5 is average, and 10 represents top importance or full satisfaction.

9. What is your rating for the importance of hardware maintenance to your business and how satisfied are you with your main service vendor's performance.
 - Importance rating _____
 - Satisfaction rating _____
10. If we define *Systems Availability* as the percentage of your normal working hours that the system is operational (disregarding non-critical peripheral breaks), what percentage has that been for your system over the last twelve months?
 - Percentage _____ %
11. How many times each year does your system fail completely for a period of greater than one hour?
 - Failures per year _____

And what percentage of these system failures are due to:

- Hardware _____ %
- Systems software _____ %
- Applications software _____ %
- Other (i.e., power failure) _____ %

(Please check that percentages add up to 100).

12. What is your rating for the importance of *Systems Availability* (scale 1-10), and what is your level of satisfaction?

• Importance rating _____

• Satisfaction rating _____

13. Defining *Hardware Response Time* as the time it takes between reporting a fault and the arrival of the service engineer on site (in working hours, that is to say 8 hours = 1 working day), what response time (in hours) do you find acceptable and what did you actually experience as an average over the last twelve months?

• Acceptable _____ Hours

• Experienced _____ Hours

14. If *Hardware Repair Time* is defined as the time taken to get the system fully operational from the time the engineer arrives on site, then what time do you find acceptable (in working hours) and what time did you experience in the last twelve months?

(Note: 8 hours = 1 working day or shift)

• Acceptable _____ Hours

• Experienced _____ Hours

15. I would now like to go through a list of five aspects of hardware maintenance and ask you to give both an *Importance* and a *Satisfaction* rating for each (scale 0 - 10, 0 = NA, 1 = Low, 10 = High).

Importance	Satisfaction
------------	--------------

• Spares availability	_____	_____
• Engineer skills	_____	_____
• Problem escalation	_____	_____
• Documentation	_____	_____
• Remote diagnostics	_____	_____

16. How important is it that your system supplier provides a hardware *Consultancy/Planning* service to support your operations and how satisfied are you with the service provided? (Scale 0 - 10, 0 = NA, 1 = Low, 10 = High).

- Importance _____
- Satisfaction _____

D

Systems Software Support

I would like to ask you some questions relating to the service you get from your software support vendor.

These questions relate to *Systems Software* - Not Applications.

Systems software includes networking software for LANs or wide-area networks.

As before, some of the questions are scaled with ratings from 0 or 1 to 10. Zero (0) represents Not Applicable (NA), 1 is low importance or low satisfaction, 5 is average and 10 is top importance or full satisfaction.

17. Who supports your *Systems Software*?

(Please circle appropriate answer; multiple answers allowed).

	Main	2ndary	Other
• Hardware manufacturer	1	1	1
• Software house/ professional service company	1	1	1
• Software product vendor	1	1	1
• Dealer/distributor/ Value-added reseller (VAR)	1	1	1
• In-house department	1	1	1
• Other	1	1	1
• Don't Know	99	99	99

18. What is your rating for the *Importance* of systems software support to your business and what is your satisfaction with your vendor's systems support activities? (Scale 1-10)

- Importance rating _____
- Satisfaction rating _____

19. What percentage of systems software problems are *Solved By Telephone*, and how long does this take in elapsed time from the time it is alerted to the service engineer?

- Solved by phone _____ %
- Elapsed time _____ Hours

20. For those problems *not* possible to solve over the telephone, what *Response Time* would you find acceptable, and what time (on average and in working hours) have you experienced over the last twelve months? (Take RESPONSE TIME to mean from the time the problem is reported to the arrival of the engineer on site).

	Main	2ndary
• Acceptable	_____ Hours	_____ Hours
• Experienced	_____ Hours	_____ Hours

21. If *Fix Time* is defined as the time taken to get the system fully operational from the arrival of the engineer on site, then what time (in working hours) do you find acceptable, and what did you experience over the last twelve months?

• Acceptable	_____ Hours	_____ Hours
• Experienced	_____ Hours	_____ Hours

22. I would now like to go through a list of five aspects of *Systems Software Support* and ask you to give an *Importance* and a *Satisfaction* rating for each. (Scale 0 - 10, 0 = NA, 1 = Low, 10 = High).

	Importance	Satisfaction - Main Supplier	Satisfaction - 2ndary Supplier
• Engineer Skills	_____	_____	_____
• Documentation	_____	_____	_____
• Software Installation	_____	_____	_____
• Provision of Updates	_____	_____	_____
• Remote Diagnostics	_____	_____	_____

23. How important is it that your system software suppliers provide a software *Consultancy/Planning* service to support your operations and how satisfied are you with the services provided? (Scale 0 - 10, 0 = NA, 1 = Low, 10 = High)

	Main	2ndary
• Importance	_____	_____
• Satisfaction	_____	_____

24. Which type of *Systems Software Support Contract* do you currently have for your main system?

(Please circle appropriate answer. Only *one* answer allowed).

• Support included in software licence fee	1
• Three-year contract (or longer)	2
• Annual renewable	3
• None or use ad hoc service	4
• Other	88

E**Other Services**

25. I am particularly interested in obtaining your views on other services or modified current service offerings that your service suppliers could provide that would help to improve the running of your computer systems.

Could you say which of the following services your service vendor is *Currently Contracted* to supply and which you would like your service vendor to provide? Also, could you give a level of satisfaction for those contracted and a level of interest rating for those required against each in the range 1 to 10 where 1 = low satisfaction or interest, 5 = average satisfaction or interest and 10 = top satisfaction or must have?

(Please circle appropriate answer and insert Satisfaction or LOI ratings).

	Currently Contracted	Satisfaction Rating	Require	LOI
• Configuration Planning	1	_____	1	_____
• Capacity Planning	1	_____	1	_____
• Environmental Planning	1	_____	1	_____
• Cabling	1	_____	1	_____
• Software Evaluation	1	_____	1	_____
• Consultancy	1	_____	1	_____
• Network Planning	1	_____	1	_____
• Network Management	1	_____	1	_____
• Disaster Recovery/ Business Continuity	1	_____	1	_____
• Facilities Management	1	_____	1	_____
• Problems Management	1	_____	1	_____
• Applications Software Support	1	_____	1	_____
• Desktop Services	1	_____	1	_____

Interviewer: Please Rotate Question Order.

26. If you require or use desktop services, which of the following types of service do you need?
(Please ring all appropriate)

- PC/Workstation supply/installation 1
- LAN/Server supply/installation 1
- PC/Workstation/maintenance 1
- LAN/Server maintenance 1
- Network management 1
- Application software product supply/installation 1
- End-user training 1
- End-user applications development 1
- End-user support 1
- Other 1

This completes the questionnaire. I would like to thank you on behalf of INPUT for helping us to complete this survey. To express our appreciation for your time, we will be sending you a "thank you" package.

(Blank)

